How do you align your flute's headjoint to the middle section of the flute's body?

This alignment question can have a HUGE effect on your flute playing, and I'd like to briefly explain why:

The "Marching Band" method:

I was taught to line up the center of the embouchure hole in the headjoint, with the center of the keys, as you eyeball down the length of the flute from the crown.
This is also where many American band instrument companies actually place some assembly marks on their flute (Artley for one.)
This is also the way that flutes often appear in photographs. (undoubtedly for a "photo opportunity" reason: to show both the keys and the embouchure hole in the same shot.)

However this particular method, which I call "***The Marching Band flute set-up***" of aligning the headjoint, actually held my flute playing back for over 15 years and I'd like to share that with you…..so that you can perform some experiments, and perhaps discover its limitations for yourself.

First of all, why do I call it "The Marching Band" method? Because many band leaders in the states, and with military bands as their inspiration, insist that their flute section members hold the flute stiffly, parallel to the floor, and with the flute parallel to the player's shoulders, so that it crosses the body like crossing a 't'.
The use of flute lyres that strap to the front forearm, that must be held high in order to see the music, may also have had something to do with this "look".

This looks very martial from the point of view of a military-style band. But it also leads to some of the worst shoulder rotation injuries and hand pain in flutists!!!
At a National Flute Convention a few years ago, a panel on hand and arm injuries from flute playing asked how many members of the audience had experienced injuries and pain, and over 60% volunteered that they had. Apparently James Galway, who was on the injury panel, said that he'd never heard of such problems, and that maybe it was a North American phenomena. But I'll leave this 'hearsay' to you to corroborate.
(I heard it from an Ergonomic flute builder who organized the event.)

Add to this the countless stories you will hear, and flutists you will meet who suffered from over-use syndrome and had to wear braces on their arms, or rest extensively from playing, or who quit due to RSI (repetitive strain) injuries, and you will begin to worry, like I did, that the problems of holding the flute are endemic and universal solutions have not yet become entirely accepted.

The problem with the "Marching Band Flute" set up is that in lining up the center of the blow hole with the center of the keys the flutist then has to possibly compensate by:

1. Lifting the left elbow higher and push the flute into the chin with this elevated elbow.
2. Exerting more pressure with the left forefinger, locking up the left hand and causing tension in the left shoulder (I suffered RSI in the left scapula and arm from longterm tension in the left shoulder/thoracic area, that's why I'm so keen to eliminate this set-up.)
3. Holding the flute so that the keys are either slightly leaning backwards, or parallel to the ceiling which makes the heavy rods roll inward, and thus make holding even harder, as stopping the flute rolling toward you when you take the left thumb off makes fingering slower.
4. Increasing the pressure on the chin and lower lip through this "bracing stance" that impedes flexibility in the soft tissues that would have led to more sophisticated tone colour and dynamic control.
5. Cocking the left wrist at an angle that impedes the natural movement of the hand tendons through the forearm. (can lead to Carpal Tunnel and other wrist problems.)

Unfortunately, this “Marching-band” set up is still being taught by lots of otherwise good teachers. They haven't experienced the release of tension, because they haven't yet seen the negative effects of the tension. One anomaly in this regard is Sir James Galway himself who uses the center-to-center alignment with no hand or arm pain whatsoever. However he also does not understand how anyone can ever HAVE strain or pain from playing the flute as he, personally has never experienced any problems.

But thanks to various flute professionals who've given their opinions on Flutenet and elsewhere on the internet, concerning the alleviation of practice pains and RSIs, we know that the simplest experiment of "effortlessly holding the flute" can be had in under one minute of your own at-home test:

SEE FOR YOURSELF:

1. Hold the flute in your standard position parallel to the floor, as if you're going to play, and take all the fingers off as you would for a C#. Does the flute instantly spin in your hands, and roll toward you? (careful and be ready to catch it! :>)

2. Notice as you balance the flute back into position again that the heaviest part of the flute are the rods (the long thin silver tubes that hold the keys on.) When the rods are moved to the top-most side of the flute (rotate the flute gradually away from you, and notice where the rods are when they're at 12 o'clock or closest to the ceiling) they are no longer heavy. They are balanced on top of the cylinder that is the flute.

3. Now move the rods to the 3 o'clock position (pointing behind you) where you'd normally put them, and take your fingers off (flute spins in your hands again.)

4. Now move the rods so that they are somewhere between 1 o'clock and 2:30 on the clock.

5. Feel for the balance of the cylinder. You'll find it for yourself when the rods are somewhere closer to the ceiling than at the side of the flute.

6. Adjust your headjoint alignment accordingly. (rotate the headjoint toward you while leaving the rods uppermost on the middle section of the flute.)
   You'll also find that with the rods more upward, the keys are VERY slightly tilting forward, and the left hand keys are a lot easier to reach
   (especially if you have an in-line 'G'.)

You can do this experiment every day if you want to, or whenever you're questioning your alignment and set-up, but you'll soon find that with the rods slightly upward, and the keys slightly tilting away from your body, that the flute is no longer rolling toward you when you take fingers off, that the fingers no longer have to hold on too tight, trying to re-balance the flute the entire time you're playing it.

Fingers need to be free to move up and down many times per second, and can't be used for gripping if they are to achieve maximum speeds.
Therefore for this reason alone, I suggest that you begin to learn balancing the flute in the hands as a way to determine your own headjoint set-up.

A further advantage you'll also notice is that the left arm can relax downward, and hang more, with the left elbow pointing down, and making more of a "plumb-line" to the floor. This is zillions of times more comfortable than having the elbow in the air, as you'll immediately feel for yourself.

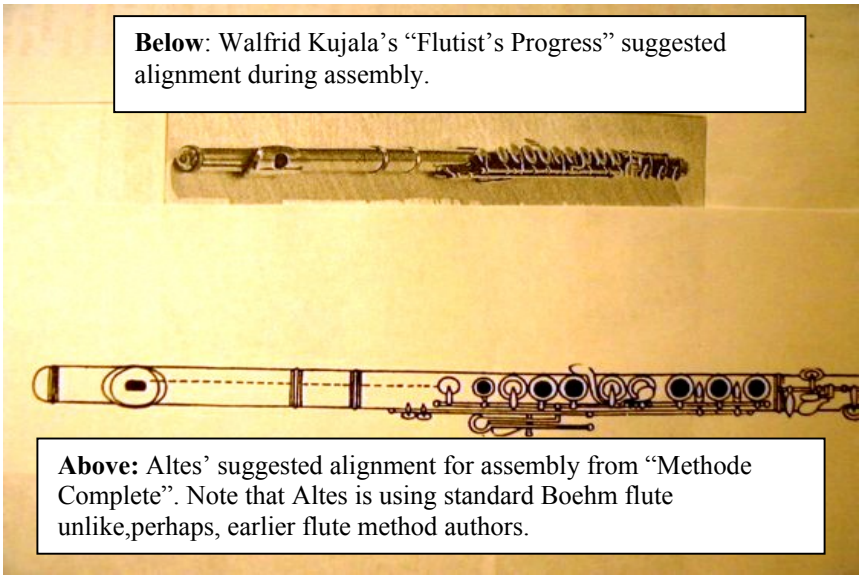
COMPARE "Marching Band" to the 'Rockstro' or three-side hold METHOD:
Re: Lining up the FAR SIDE of the embouchure hole with the center of the keys:

Now, if the above experiment is still not proof enough, here are some more reasons why I prefer to line up the FAR SIDE edge of the embouchure hole with the center of the keys, when putting my flute together.

It is a concept that's supported by many many teachers old and current.
Quantz himself advocated this set up in his big treatise on the flute (go grab a library copy and read his many other brilliant ideas too!), and everytime you hear the term "Rockstro" in a flute teacher's conversation, they are also discussing part of the long chain of historical proof of what Quantz said in his original treatise.

Read Rockstro's book on the flute to see what he had to say about alignment.
Thomas Nyfenger talks about it in his wonderful book "Music and the Flute" and you will find countless other advocates for what I'm suggesting.
Example:
This is written by Stephen Preston in the introduction to the Drouet Method that was recently reprinted;
" Examples of famous players who advocated turning the embouchure inward
are quoted by Rockstro in "A Treatise on the Flute" paragraph 715. Authorities cited for turning the mouth-hole inwards are:

Quantz, Devienne, Berbiguer, Drouet, Dressler, Lindsay, Tulou, Nicholson, Coche."
_____end quote
Another example:
Pictures from Walfrid Kujala's "Flutist's Progress" printed in 1970, and from Altes' "Methode de Flute" printed in the 1800s:



Below: Walfrid Kujala's "Flutist's Progress" suggested alignment during assembly.

Above: Altes' suggested alignment for assembly from "Methode Complete". Note that Altes is using standard Boehm flute unlike,perhaps, earlier flute method authors.

Walfrid Kujala also has a great article in the appendix of "Flutist's Progress" where he gives innumerable details about "Rockstro" alignment and how he discovered it late in his career to great tonal advantage.
And…
Speaking of Thomas Nyfenger's "Music and the Flute", there are some simple cross sectional drawings that explain Nyfenger's preference.

See drawings next page.
Explanation:
If you draw a circle to represent the flute seen in cross section, and then drew a cross through the circle to divide it into four quarters, this would be a representation of the pressure points you're using to hold the flute in the "four-sided hold".
Each intersection represents a direction of force.

The left forefinger pushes toward you, the chin pushes away from you; the right thumb lifts the flute up, the heavy fingerings push the flute down.

You're pushing from all directions.

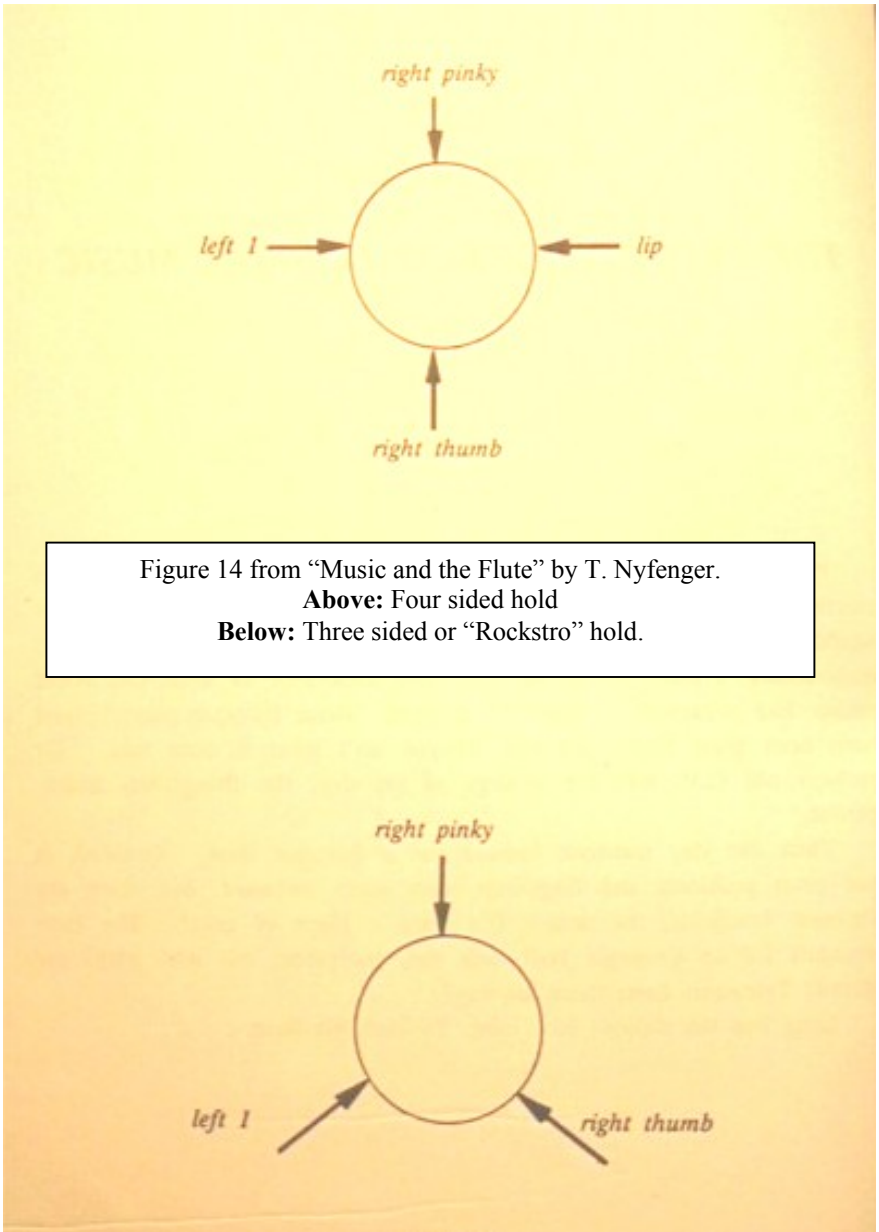


Figure 14 from “Music and the Flute” by T. Nyfenger.
Above: Four sided hold
Below: Three sided or “Rockstro” hold.

Compare the above four sided hole to the three-point circle with three points of balance, such as you'd have if you lined up the FAR SIDE of the embouchure hole with the center of the keys. In the second example of the "three-sided" hold:

The left forefinger acts as a shelf. The flute sits on this shelf.
The right thumb guides the flute way from you.
The flute swings on the shelf as a hinge, or fulcrum, and when the right thumb pushes away, the headjoint comes toward your chin.

You don't need to press it into your chin, it just swings up and under the lower lip.

The lower lip is not squished by any pressure and stays moveable and flexible.

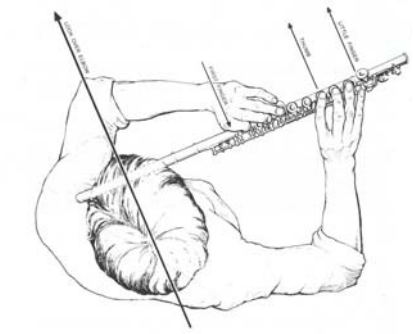
There is no pressure being applied, so all the fingers are free to move up and down rapidly. And the flute has no tendency to roll, as the rods are balanced toward the top of the flute.

OBSERVING OVERALL PROFESSIONAL POSTURE:

It's estimated that about 75% of flute players polled on the net advocate this alignment, or a slight variation on it and continued experimentation, and that the remaining 25% either don't know about it, or have thickish lower lip, very concave chin dip, or other structure that doesn't require this particular 'three point hold' or “Rockstro” alignment procedure.

And if you watch any filmed concert (or live one) and are able to view the professional flute players, either in an orchestra or soloists, you will see that they have their front elbow down (pointing almost to the floor usually) and that the flute makes about a 45 degree angle to their shoulders when viewed from the side.
They do not hold the flute across their chests, like a letter 't' but are pushing the right hand away from them so that the flute makes a 'V' shape to their bodies.

Their right arms are not pulled back, behind their right shoulders, but are well in front of the right shoulders. Their flute is being balanced on top of their left forefinger, and not being pushed into their faces with the left forefinger.



Professional flute players have a similarity in the angles their bodies make to the flute after years and years of daily long-houred practice.

See if you can imitate their posture with the "Marching Band" alignment, and then try the “three sided” suggested alignment (far-side of embouchure hole lines up with key-centers), and see for yourself which posture would allow you to play for up to 8 hours or more a day without any sense of clenching the flute for stability.

IMPORTANT POINTS ABOUT LIP COVERAGE:

Now, the very first time a student changes to this "far edge of the embouchure hole" alignment, they'll feel that the embouchure hole is too turned inward compared to their usual alignment.

The solution is to turn the body of the flute outward, and leave it turned outward so that the lip hole feels like it's either in it's previous position, or even one or two millimeters more rolled out than usual.
Check in the mirror (by bending forward and keenly observing the embouchure hole and lower lip) that the lower lip covers only 1/4 to 1/3 of the embouchure hole and no more.

If you cover more than that your highest octave will be difficult to play, your tone thin, and leaping between distant notes will require huge and disruptive embouchure changes.

In this new position you'll also notice out of your right eye while playing that the keytops tilt very slightly forward making the left hand keys easier to reach, and the right hand keys easy to play with curved fingers dropping from the palm-knuckles.

This optimal finger-position is SO easy when the flute is aligned this way, that all other hand-position problems start to disappear.

Notice too that when your flute headjoint is set up in this way, that when you put it up to your face to play that your left arm doesn't have to cross your chest so dramatically, and instead, by swinging your right arm forward in an arc, that you can allow the left shoulder to rotate back, and down in its socket in a more natural position.

Once you've experimented with the rotation of the left shoulder so that it can freely hang down in its socket, proceed to mark your flute using the extremely brilliant idea below:

EXTREMELY CLEVER IDEA:
Once you have determined a comfortable headjoint placement with regards to assembling your flute, clean off a little area on the barrel and headjoint with a Q-tip dipped in isopropyl alcohol (from drugstore) and affix a tiny set of stickers (cut out little rectangles from a cassette label, or use cuter stickers for children if they prefer.) You can also mark the "set-up" position with coloured nail polish if you'd like a little coloured blob to line up to.

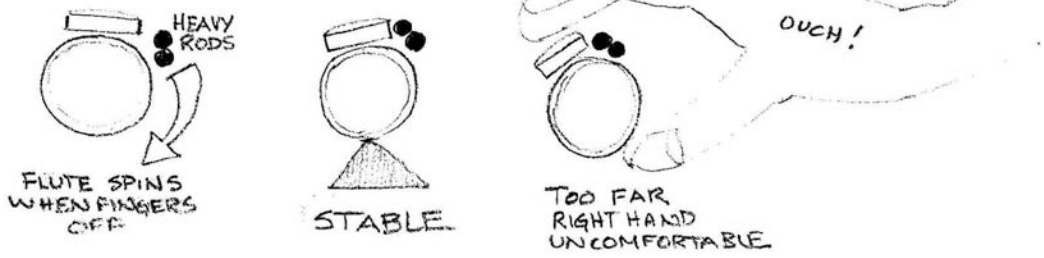
HAND POSITION REMINDERS:
The left hand should act as a "shelf-bracket" to hold the flute's weight just above the lowest knuckle of the index finger, curling it underneath enough to hold the flute up. (see Trevor Wye drawing next page.) If this feels odd, shimmy your left hand down the barrel of the flute a few millimeters, getting closer to the Ab key. If your left hand fingers look curved over the keys, instead of straight, then they will be twice as fast at repeated movements, so get used to this new position gradually, and check often in the mirror to see that those fingers remain curled over the keys at all times.

The right hand should balance the flute ON THE TIP OF THE THUMB, somewhere comfortable underneath or slightly behind the flute , either beneath the F key, or between the F key and the E key (under first trill key) or in special cases as Galway and G'Froerer advocate. See photo at: http://users.eastlink.ca/~jenpublicover/JoannaGfroerer2002.html

The picture at left is from Trevor Wye's "Beginner Book of the Flute". I wrote to him to ask about headjoint alignment as it was not covered in his texts and he replied (paraphrase):

" First, as all students are of different shapes and sizes, I advocate that they discover how to hold the flute so that the keytops are facing the ceiling, or slightly leaning foward, and NEVER leaning backward, as that topples the flute from the heaviness of the rods when all fingers are off.

Next we decide on the optimal placement of the headjoint on the chin, so that the best tone is achieved. Then we marry the body of the flute to the headjoint position. Much experimentation is required as all students have different arm and finger length, and various chin and lip shapes."



If the flute rolling inward still plagues you too often (depending on whether you are working on right hand pinky keys for the first time, for example), and you feel you have to clench your hands to keep the flute stable, a small square of a wine-cork glued on the back of the flute, above the thumb with contact cement, will act as a terrific "roll-bar" and make your whole body more relaxed, while stabilizing the flute in your hands. (If interested in this there is also a file on Flutenet about my "roll bar" invention and how it works for me.)

So be sure and try these ideas, and send feedback, for I'm utterly convinced that for me, and for every student I've had, that this simple flute alignment principle cures a whole host of future ills for the student.

And since I was the one who suffered specifically from "not knowing" for 15 years let me tell you……. I grew up in Canada under the same kind of band instruction as many North Americans do. My flute teachers, although very fine in many respects, were also North American, and didn't notice any problems, nor correct my arm problems until they were so bad, I had to stop playing.

So here's my take on the alignment issue; do your own experiments and then send your comments to Flutenet. We're fact finders (and comfort finders!! :>) on a mission! :>)

Cheers, Jennifer Cluff :>) Webpage: http://www3.telus.net/Garry_McKevitt/